

Modeling & Problem Solving Cont'd

Name _____

Date _____

Block _____

PART 3

For the following word problems, define variables, set up an equation, and solve. SHOW ALL WORK.

(Do work on a separate sheet).

- 6) The second of two numbers is 10 more than 3 times the first. Their sum is 70. Find the numbers.
- 7) The larger of two numbers is 5 less than 8 times the smaller. Their sum is 94. Find the numbers.
- 8) The Podunk Village fire truck has two hoses. The length of hose #1 is 20 ft less than 4 times the length of hose #2. The combined length of the two hoses is 380 ft. Find the length of the longer hose.
- 9) A bottle filled with water weighs 40 lb. If the water by itself weighs 15 times as much as the bottle, what is the weight of the bottle?
- 10) A triangular sail has two sides the same length. The third side is 9 ft shorter than either of the equal sides. The perimeter of the sail is 63 ft. How long is the shortest side?

PART 4

Define variables, set-up, and solve. SHOW ALL WORK.
Draw a picture when helpful.

- 11) The length of a rectangle is 2 cm more than 5 times the width. The perimeter is 196 cm. Find the width and length.
- 12) The length of a rectangular field is 6 m less than twice the width. The perimeter is 312 m. Find the length of the field.
- 13) The perimeter of a triangle is 93 ft. Side a of the triangle is twice as long as side b . Side c is 3 ft longer than side a . Find the length of each side.
- 14) The first side of a triangle is 9 m shorter than the second side. The third side is 3 times as long as the first side. The perimeter is 39 m. Find the length of the longest side.

PART 5

- 15) One third of a number is 15 less than five sixths of the number. Find the number.
- 16) Two thirds of a number is $3\frac{1}{2}$ more than three eighths of the number. Find the number.
- 17) One half of a certain even integer plus one fifth of the next consecutive even integer equals 48. Find the two integers.
- 18) Find two consecutive odd integers such that the sum of the smaller and 3 times the larger is 330.
- 19) Find three consecutive integers such that the sum of the largest and 5 times the smallest is -244.